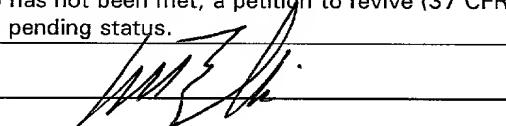


534 Rec'd PCT/PTO 01 AUG2000

FORM PTO-1390 (Modified) (REV 5-93)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371</b>		048662/0125	
		U.S. APPLICATION <small>is known see 37 CFR 1.5</small> Unassigned <b>09/601363</b>	
INTERNATIONAL APPLICATION NO. PCT/DE99/03554	INTERNATIONAL FILING DATE November 13, 1999	PRIORITY DATE CLAIMED December 02, 1998	
TITLE OF INVENTION PORTABLE MICROPROCESSOR-ASSISTED DATA CARRIER THAT CAN BE USED WITH OR WITHOUT CONTACTS			
APPLICANT(S) FOR DO/EO/US Achim PIETIG			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<p>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.</p> <p>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.</p> <p>3. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</p> <p>4. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19<sup>th</sup> month from the earliest claimed priority date.</p> <p>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2))  <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).  <input type="checkbox"/> has been transmitted by the International Bureau.  <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)</p> <p>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</p> <p>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))  <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).  <input type="checkbox"/> have been transmitted by the International Bureau.  <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.  <input checked="" type="checkbox"/> have not been made and will not be made.</p> <p>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</p> <p>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).</p> <p>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).</p>			
Items 11. to 16. below concern other document(s) or information included:			
<p>11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</p> <p>12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</p> <p>13. <input checked="" type="checkbox"/> A FIRST preliminary amendment.  <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.</p> <p>14. <input type="checkbox"/> A substitute specification.</p> <p>15. <input type="checkbox"/> A change of power of attorney and/or address letter.</p> <p>16. <input checked="" type="checkbox"/> Other items or information: PROPOSED CHANGES TO THE DRAWINGS</p>			

534 Rec'd PCT/PTC 01 AUG2000

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.50) Unassigned	INTERNATIONAL APPLICATION NO. PCT/DE99/03554	ATTORNEY'S DOCKET NUMBER 048662/0125					
17. <input checked="" type="checkbox"/> The following fees are submitted:		CALCULATIONS PTO USE ONLY					
Basic National Fee (37 CFR 1.492(a)(1)-(5): Search Report has been prepared by the EPO or JPO ..... \$840.00							
International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... \$670.00							
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... \$690.00							
Neither international preliminary examination fee (37 CFR 1.482) nor International search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$970.00							
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... \$96.00							
ENTER APPROPRIATE BASIC FEE AMOUNT =		\$840.00					
Surcharge of \$130.00 for furnishing the oath or declaration later than 20 Months from the earliest claimed priority date (37 CFR 1.492(e))							
Claims	Number Filed	Included in Basic Fee	Extra Claims		Rate		
Total Claims	12	-	20	= 0	×	\$18.00	\$0.00
Independent Claims	2	-	3	= 0	×	\$78.00	\$0.00
Multiple dependent claim(s) (if applicable)						\$260.00	
TOTAL OF ABOVE CALCULATIONS =							\$840.00
Reduction by ½ for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).							\$0.00
SUBTOTAL =							\$840.00
Processing fee of \$130.00 for furnishing English translation later the 20 months from the earliest claimed priority date (37 CFR 1.492(f)).		+					
TOTAL NATIONAL FEE =							\$840.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property							\$40.00
TOTAL FEES ENCLOSED =							\$880.00
				Amount to be: refunded	\$		
				charged	\$		
a. <input checked="" type="checkbox"/>	A check in the amount of \$880.00 to cover the above fees is enclosed.						
b. <input type="checkbox"/>	Please charge my Deposit Account No. <u>19-0741</u> in the amount of \$0.00 to the above fees. A duplicate copy of this sheet is enclosed.						
c. <input checked="" type="checkbox"/>	The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>19-0741</u> . A duplicate copy of this sheet is enclosed.						
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.							
SEND ALL CORRESPONDENCE TO:  Foley & Lardner Washington Harbour 3000 K Street, N.W., Suite 500 Washington, D.C. 20007-5109							
 SIGNATURE NAME WILLIAM T. ELLIS							
REGISTRATION NUMBER 26,874							

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Achim PIETIG

Title: PORTABLE MICROPROCESSOR-ASSISTED DATA  
CARRIER THAT CAN BE USED WITH OR  
WITHOUT CONTACTS

Appl. No.: Unassigned

Filing Date: Concurrently Herewith

Examiner: Unassigned

Art Unit: Unassigned

## PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Preliminary to examination, please amend the application as indicated below  
and please consider the following remarks.

IN THE DRAWINGS:

Amendment of Figures 1-3 as described in the accompanying Proposed  
Drawing Correction.

IN THE ABSTRACT:

Please insert after page 9 of the claims, the Abstract, which is attached  
hereto.

IN THE SPECIFICATION:

Page 1, line 2, delete, "Background of the Invention";

line 7, insert -Background of the Invention--.

Page 2, line 3, insert -Summary of the Invention--;

line 27, delete, "processes" and insert -processes--.

Page 6, line 13, insert, --Brief Description of the Drawings--;

PCT/PTC/PTD/PTO

line 14, insert, --The present invention will be described in further detail with reference to the accompanying drawings, in which:--,

line 15, insert, --Figure 1, is an illustration of the portable data medium according to the present invention;--;

line 16, insert, --Figure 2, is an illustration of the semiconductor module containing microprocessor, memory and antenna interface;-- ;

line 17, insert, --Figure 3(a), is an illustration of the data input/data output unit operating in contacted fashion; and --

line 18, insert, --Figure 3(b), is an illustration of the data input/data output operating in contactless fashion.

line 19, insert --Detailed Description of the Invention--.

Page 7, line 12, delete, "33" and insert --3(b)--.

Page 8, line 20, insert --The foregoing description of a preferred embodiment of the invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed, and modifications and variations are possible in light of the above teachings or may be acquired for practice of the invention. The embodiment was chosen and described in order to explain the principles of the invention and its practical application to enable one skilled in the art to utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the claims appended hereto, and their equivalents.--

**IN THE CLAIMS:**

Please cancel claims 1-12;

Please add claims 13-24;

--13. A portable microprocessor-assisted data medium able to be operated in both contacted and contactless fashion, comprising:

a structure for carrying out an contacted mode, in which the portable data medium and a data input/data output unit transmit data to each other in a contacted fashion;

a structure for carrying out an contactless mode, in which said the portable data medium and the data input/data output unit transmit data to each other in a contactless fashion; and

    said portable data medium has at least one memory divided into various memory areas, such that said portable data medium stores at least one access condition for at least one memory area, said access condition defines the condition under which access to said memory area is permitted, also, said portable data medium stores at least one data transmission-specific access condition for at least one memory area, said access condition defines the basis of the type of data transmission between the portable data medium and a data input/data output unit and the condition under which access to this particular memory area is permitted.

14. The portable microprocessor-assisted data medium as defined in claim 13, wherein, a data transmission-specific access condition for the contactless mode is provided for at least one memory area, said access condition prohibiting any access to this particular memory area in the portable data medium's contactless mode.

15. The portable microprocessor—assisted data medium as defined in claim 14, wherein a data transmission-specific access condition for the contactless mode is provided for at least one memory area, said access condition defining different conditions under which access is permitted for each of at least two different access types in the portable data medium's contactless mode.

16. The portable microprocessor-assisted data medium as defined in claim 15, wherein various access types are allocated different data transmission-specific access conditions for a memory area for the contactless mode, said access conditions defining the conditions under which access is permitted for the respective access type in the portable data medium's contactless mode.

17. The portable microprocessor-assisted data medium as defined in claim 13, wherein a data transmission-specific access condition for the contacted mode is provided

for at least one memory area, said access condition prohibiting any access to this particular memory area in the portable data medium's contacted mode.

18. The portable microprocessor-assisted data medium as defined in claim 17, wherein a data transmission-specific access condition for the contacted mode is provided for at least one memory area, said access condition defining different conditions under which access is permitted for each of at least two different access types in the portable data medium's contacted mode.

19. The portable microprocessor-assisted data medium as defined in claim 13, wherein various access types are allocated different data transmission-specific access conditions for a particular memory area for the contacted mode, said access conditions defining the conditions under which access is permitted for the respective access type in the portable data medium's contacted mode.

20. The portable microprocessor-assisted data medium as defined in claim 13, wherein, for at least one memory area and for at least one access type, one data transmission-specific access condition is provided for the contacted mode and one data transmission-specific access condition is provided for the contactless mode.

21. The portable microprocessor-assisted data medium as defined in claim 13, wherein, the data transmission-specific access condition can be input into a freely programmable nonvolatile memory in the portable data medium by authorized agencies using an item of secret information.

22. The portable microprocessor-assisted data medium as defined in claim 13, wherein, the data transmission-specific access condition can be reprogrammed into the portable data medium by authorized agencies using an item of secret information.

23. The portable microprocessor-assisted data medium as defined in claim 13, wherein, the data transmission-specific access condition is stored in a non-modifiable read only memory in the portable data medium.

24. A method for carrying out communication between a portable microprocessor-assisted data medium and a data input/data output unit operating in contacted fashion or a data input/data output unit operating in contactless fashion, comprising the steps of:

dividing at least one memory contained in the portable data medium, into various memory areas;

storing in said memory contained in said portable data medium at least one data transmission-specific access condition, said access condition defining the condition under which access to said various memory areas is permitted and determining access to a particular one of said various memory areas based on the type of data transmission between the portable data medium and the data input/data output unit; and

checking before the particular one of said various one of said various memory areas is accessed (an access command transmitted by the data input/data output unit is executed), whether in consideration of the data transmission-specific access condition, the desired access command is permitted given the particular current type of data transmission, and executing the access command only if the result of the check is that access is permitted. --

#### REMARKS

Examination of the application as amended is requested.

The present application claims foreign priority under 35 U.S.C. §119. The newly presented claims were added to conform with the standards required for a U.S. Application. The newly added claims have been submitted for examination.

The Specification has been amended to correct for minor informalities and to conform to MPEP 608.01(a). No new matter has been added.

A proposed drawing correction has been included to correct for minor informalities in the drawings and to conform with standards required for a U.S. Application.

**CONCLUSION**

Should there be any questions regarding this application, the Examiner is invited to contact the undersigned at the number shown below.

Respectfully submitted,

By \_\_\_\_\_



Date August 1, 2000

FOLEY & LARDNER  
Washington Harbour  
3000 K Street, N.W., Suite 500  
Washington, D.C. 20007-5109  
Telephone: (202) 672-5485  
Facsimile: (202) 672-5399

William T. Ellis  
Attorney for Applicant  
Registration No. 26,874

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees; and applicant(s) hereby petition for any needed extension of time.

THE ABSTRACT OF THE DISCLOSURE

A Portable Microprocessor-assisted data carrier that can be operated with or without contacts. At least one data-transmission specific access condition is stored in the portable data carrier for at least one area of memory. The access condition defines the condition for access to specific areas of a memory according to the type of data transmission (with or without contacts) between the possible data carrier and a data input/output device.

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PCT/DE99/03554

534 Rec'd PCT/PTO 01 AUG 2000

Title: Portable microprocessor-assisted data medium which can be operated both in contacted and contactless fashion

5 The invention relates to a portable microprocessor-assisted data medium which can be operated both in contacted and contactless fashion. In this context the portable data medium is preferably in the form of a smart card.

10

Contacted cards have electrical contact surfaces for the supply of power and for data interchange with a corresponding data input/data output unit operating in contacted fashion when in physical contact. Contacted 15 cards have been widespread for a relatively long time as access authorization cards for GSM mobile radio systems, telephone cards, health insurance cards, bank cards etc.

20 Contactless cards contain a coil as an antenna for the supply of power and for data interchange with a corresponding data input/data output unit operating in contactless (inductive) fashion. In this context, the card is provided with an antenna interface which uses 25 an AC voltage induced in the coil to produce a DC voltage for supplying voltage to the microprocessor. The antenna interface also serves as a signal converter

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- 2 -

for the data which is to be interchanged between the contactlessly operating terminal and the microprocessor. The antenna interface is preferably integrated on a semiconductor module together with the 5 microprocessor.

The subject of the invention is a portable microprocessor-assisted data medium which combines the two sets of functions (contacted and contactless) 10 within itself. Such portable data media are known by the terms Combi card (combination of contacted and contactless functions) or Dual Interface Card (card with contacted and contactless interface).

15 The type of data transmission between the portable data medium and a data input/data output unit operating in contacted fashion is naturally different from the type of data transmission between the portable data medium and a data input/data output unit operating in 20 contactless fashion. Different transmission protocols are used for the portable data medium's contacted mode and contactless mode. Indeed, different transmission protocols ( $T = 0$ ,  $T = 1$ ,  $T = 14$ ) are known only for the contacted mode.

25

The portable data media which are the subject of the invention support both at least one transmission

- 3 -

protocol for the contacted mode (e.g.  $T = 1$ ) and a transmission protocol for the contactless mode.

The portable data media forming the subject of the 5 invention have an operating system which - irrespective of the type of data transmission - processes and administers the data stored in various memory areas on the basis of the commands received from the respective data input/data output unit.

10

In turn, one, two or more application programs can be installed on such an operating system. Such portable data media on which a plurality of application programs are installed are also called multifunctional smart 15 cards. The portable data medium forming the subject of the invention would then be referred to as a multifunctional Dual Interface Card. In this context, each application can have various memory areas allocated to it. Thus, by way of example, the portable 20 data medium could comprise a cash card application supervised by banks and a local public passenger services application supervised by a local public passenger services network operator. In this context, the cash card application would be allocated a cash 25 fund as the memory area and the local public passenger services application would be allocated a corresponding

- 4 -

local public passenger services fund as the memory area.

Whereas a prerequisite for contacted use of the  
5 portable data medium is always that the holder of the portable data medium consciously and deliberately introduces it into the appropriate data input/data output unit, this conscious, deliberate behavior is not always necessary for data transmission to take place in  
10 the case of contactless operation. The sometimes relatively long range of contactlessly operating data input/data output units means that data transmission can also take place even when the portable data medium is still in the data medium holder's pocket, for  
15 example. Thus, for example, whenever the holder passes through the entrance and/or exit area of underground stations, contactless data transmission can automatically be set up for the purpose of quick and convenient fare payment.

20

However, this advantage of the contactless mode of operation presents a risk in a portable data medium which can be operated both in contactless and contacted fashion. This risk is that hackers could attempt to use  
25 a contactlessly operating data input/data output unit in order also to access, unnoticed, memory areas which are actually reserved for the contacted-mode

- 5 -

application, with access to this memory area normally having the prerequisite that the data medium is consciously and deliberately introduced into the data input/data output unit operating in contacted fashion.

5

The object of the invention is therefore to provide a portable microprocessor-assisted data medium which can be operated both in contacted and contactless fashion and is provided with the assurance that it is not possible for memory areas which are intended to be reserved for the contacted-mode application to be contactlessly accessed without the data medium holder's knowledge.

15 The invention achieves this object by virtue of the portable data medium storing at least one data transmission-specific access condition for at least one memory area, said access condition defining, on the basis of the type of data transmission between the 20 portable data medium and a data input/data output unit, the condition under which access to this memory area is permitted.

The access condition may be an individual bit indicating, as a flag, whether or not access to this 25 memory area is permitted for the current type of data transmission (contacted or contactless).

The procedure used according to the invention is that, before this memory area is accessed, i.e. before a command transmitted by the data input/data output unit 5 is executed, the portable data medium itself uses a checking program stored in the portable data medium to read the data transmission-specific access condition associated with this memory area. It then checks whether, in consideration of the access condition, the 10 desired access command is permitted in the case of the particular current type of data transmission. The corresponding access command is then executed only if the result of the check is that this access is permitted. In this context, the portable data medium 15 stores a respective item of information about what the current data transmission type is, i.e. which transmission protocol is currently being used.

The inventive provision of a data transmission-specific 20 access condition thus reliably ensures that access to particular memory areas is prohibited in the case of contactless data transmission, while access is permitted in the case of contacted data transmission.

25 In this context, access in the case of contactless data transmission is blocked generally in one embodiment.

DE 1999 03554

- 7 -

In another embodiment, the access restriction applies only to particular access types (commands), while other access types are permitted. In this context, a single access condition may be provided which defines for 5 various access types different conditions under which this access type is permitted. As an alternative to this, a dedicated data transmission-specific access condition is provided for each access type.

10 In addition, the reverse configuration is also within the scope of the invention, where, in the case of contacted operation, appropriate access conditions are used to block access to particular memory areas which are intended to be reserved only for the contactless 15 mode.

Furthermore, provision is also made for at least one data transmission-specific access condition to be provided only for the contacted mode, said access 20 condition defining, on the basis of the active contacted transmission protocol ( $T = 0, T = 1, T = 14$ ), the condition under which access to a memory area is permitted.

25 In this context, the data transmission-specific access condition according to the invention can be input into a freely programmable nonvolatile memory in the

- 8 -

portable data medium by authorized agencies using an item of secret information, and the access conditions may preferably also be reprogrammed. The access conditions are programmed in so-called initialization 5 and/or personalization steps.

Instead of freely programming the access conditions, they may also be stored in a nonmodifiable read only memory (ROM).

10

The appended drawings will be used to explain the invention in more detail below.

Figure 1 shows the portable data medium in the form of 15 a smart card. For the contacted mode of operation, said smart card has electrically conductive contact surfaces (Ki) on one side of the card. For the contactless mode of operation, an antenna (A) in the form of a coil is situated in the card body. For illustrative purposes, 20 the card body is shown open at two places in the region of the coil winding.

Figure 2 shows a schematic illustration of the portable data medium. It shows the semiconductor module 25 containing a microprocessor, a memory and an integrated antenna interface. The antenna (A) is connected to one side of this one semiconductor module by means of

PCT/DE99/03554

- 9 -

appropriate connecting lines (LA), and the contact surfaces (Ki) are connected to the other side of it by means of appropriate connecting lines (LK<sub>i</sub>). In addition to the CPU as the central arithmetic and logic unit, the semiconductor module contains a read only memory (ROM), which stores at least sections of the operating system, and a volatile main memory (RAM). In addition, there is a nonvolatile programmable memory (EEPROM) divided into various memory areas. This memory can store, amongst other things, a section of the operating system. Furthermore, it contains the application programs with appropriate memory areas as data fields.

Figure 3A is a schematic illustration of the portable data medium in conjunction with a data input/data output unit operating in contacted fashion; Figure 3B is a schematic illustration of the portable data medium in conjunction with a data input/data output unit operating in contactless fashion.

Figure 4 is a schematic exemplary illustration of various memory areas of the EEPROM memory with the appropriate access conditions according to the invention. In this context, the i-th memory area is provided as a data field for a cash fund which is used in connection with the contacted cash card application.

- 10 -

In addition, there is the j-th memory area, which is used as the data field for a further fund, which is used in connection with the contactless local public passenger services application. In this case, the "cash fund" memory area has 4 associated access conditions (AC1, AC2, AC3, AC4), which define access to this memory area on the basis of the contacted or contactless mode of operation. In the simplest case, the access conditions are stored as a flag in the form of a single bit which can be set or not set.

Thus, for example, the meanings are as follows:

AC1 = 1: Read command permitted in contacted mode,  
15 AC1 = 0: Read command prohibited in contacted mode,  
AC2 = 1: Update command permitted in contacted mode,  
AC2 = 0: Update command prohibited in contacted mode,  
AC3 = 1: Read command prohibited in contactless mode,  
AC3 = 0: Read command permitted in contactless mode,  
20 AC4 = 1: Update command prohibited in contactless mode,  
AC2 = 0: Update command permitted in contactless mode.

The same applies to the access conditions for the local  
25 public passenger services fund.

- 11 -

The access conditions themselves can be read internally  
(in the portable data medium) in both modes of  
operation. Optionally, the access conditions can also  
be read by the data input/data output units. They may  
5 be changed only by authorized agencies, however.

- 12 -

Patent claims

1. A portable microprocessor-assisted data medium  
able to be operated both in contacted and  
5 contactless fashion, where

- in contacted mode, data transmission takes place between the portable data medium and a data input/data output unit operating in contacted fashion,
- 10 - in contactless mode, data transmission takes place between the portable data medium and a data input/data output unit operating in contactless fashion,
- the portable data medium has at least one  
15 memory divided into various memory areas,
- the portable data medium stores at least one access condition for at least one memory area, said access condition defining the condition under which access to this memory  
20 area is permitted,

wherein

the portable data medium stores at least one data transmission-specific access condition for at least one memory area, said access condition defining, on the basis of the type of data  
25 transmission between the portable data medium and

- 13 -

a data input/data output unit, the condition under which access to this memory area is permitted.

2. The portable microprocessor-assisted data medium  
5 as claimed in claim 1,

wherein

10 a data access condition transmission-specific for the contactless mode is provided for at least one memory area, said access condition prohibiting any access (all access types, commands) to this memory area in the portable data medium's contactless mode.

15 3. The portable microprocessor-assisted data medium as claimed in claim 1 or 2,

wherein

20 a data transmission-specific access condition for the contactless mode is provided for at least one memory area, said access condition defining different conditions under which access is permitted for each of at least two different access types in the portable data medium's contactless mode.

25 4. The portable microprocessor-assisted data medium as claimed in one of the preceding claims,  
wherein

- 14 -

various access types are allocated different data transmission-specific access conditions for a memory area for the contactless mode, said access conditions defining the conditions under which 5 access is permitted for the respective access type in the portable data medium's contactless mode.

5. The portable microprocessor-assisted data medium as claimed in one of the preceding claims,

10 wherein

a data transmission-specific access condition for the contacted mode is provided for at least one memory area, said access condition prohibiting any access to this memory area in the portable data 15 medium's contacted mode.

6. The portable microprocessor-assisted data medium as claimed in one of the preceding claims,

20 wherein

a data transmission-specific access condition for the contacted mode is provided for at least one memory area, said access condition defining different conditions under which access is permitted for each of at least two different 25 access types in the portable data medium's contacted mode.

- 15 -

7. The portable microprocessor-assisted data medium as claimed in one of the preceding claims, wherein

5 various access types are allocated different data transmission-specific access conditions for a memory area for the contacted mode, said access conditions defining the conditions under which access is permitted for the respective access type in the portable data medium's contacted mode.

10 8. The portable microprocessor-assisted data medium as claimed in one of the preceding claims, wherein,

15 for at least one memory area and for at least one access type, one data transmission-specific access condition is provided for the contacted mode and one data transmission-specific access condition is provided for the contactless mode.

20 9. The portable microprocessor-assisted data medium as claimed in one of the preceding claims, wherein

25 it is designed such that the data transmission-specific access condition can be input into a freely programmable nonvolatile memory in the portable data medium by authorized agencies using an item of secret information.

10. The portable microprocessor-assisted data medium as claimed in one of the preceding claims, wherein

5 it is designed such that the data transmission-specific access condition can be reprogrammed into the portable data medium by authorized agencies using an item of secret information.

10 11. The portable microprocessor-assisted data medium as claimed in one of the preceding claims 1 to 8, wherein

15 the data transmission-specific access condition is stored in a nonmodifiable read only memory in the portable data medium.

12. A method for carrying out communication between a portable microprocessor-assisted data medium and a data input/data output unit operating in contacted fashion or a data input/data output unit operating in contactless fashion, where

20  
25 - the portable data medium has at least one memory divided into various memory areas,  
- the portable data medium stores at least one data transmission-specific access condition for at least one memory area, said access condition defining, on the basis of the type

- 17 -

of data transmission between the portable data medium and a data input/data output unit, the condition under which access to this memory area is permitted,

5 wherein,

before this memory area is accessed (an access command transmitted by the data input/data output unit is executed), the portable data medium itself uses a checking program stored in the portable data medium to read the data transmission-specific access condition associated with this memory area and to check whether, in consideration of the data transmission-specific access condition, the desired access command is permitted in the case of the particular current type of data transmission, and the access command is executed only if the 10 result of the check is that access is permitted.

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09/601363

Atty. Dkt. No. 048662/0125

534 Rec'd PCT/PTC 01 AUG 2000

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Achim PIETIG

Title: PORTABLE MICROPROCESSOR-ASSISTED DATA CARRIER  
THAT CAN BE USED WITH OR WITHOUT CONTACTS

Appl. No.: (unassigned)

Filing Date: Concurrently herewith

Examiner: (unassigned)

Art Unit: (unassigned)

**PROPOSED CHANGES TO THE DRAWINGS**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Applicant proposes to amend Figure number(s) 1, 2, 3A and 3B as shown in red on the attached copies. With the Examiner's approval, the changes will be made to the formal drawings in due course.

Respectfully submitted,

By 

Date August 1, 2000

FOLEY & LARDNER  
Washington Harbour  
3000 K Street, N.W., Suite 500  
Washington, D.C. 20007-5109  
Telephone: (202) 672-5485  
Facsimile: (202) 672-5399

William T. Ellis  
Attorney for Applicant  
Registration No. 26,874

09/601363

~~Handy Data Carrier~~ Portable Data Carrier

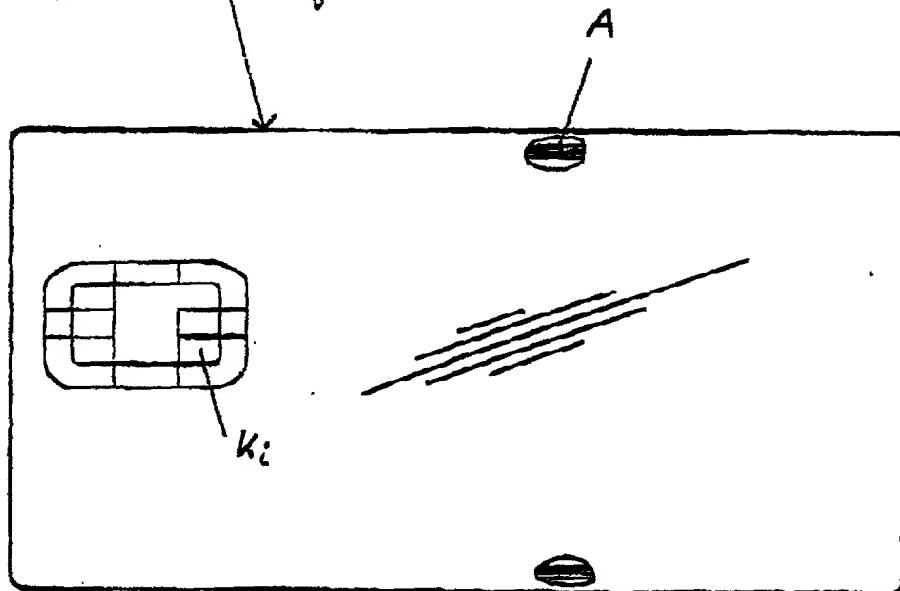


Fig. 1

09/601363

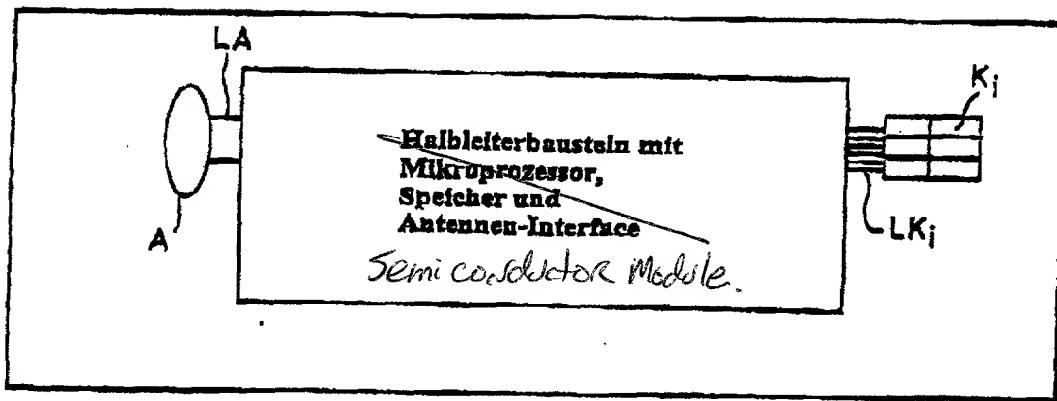
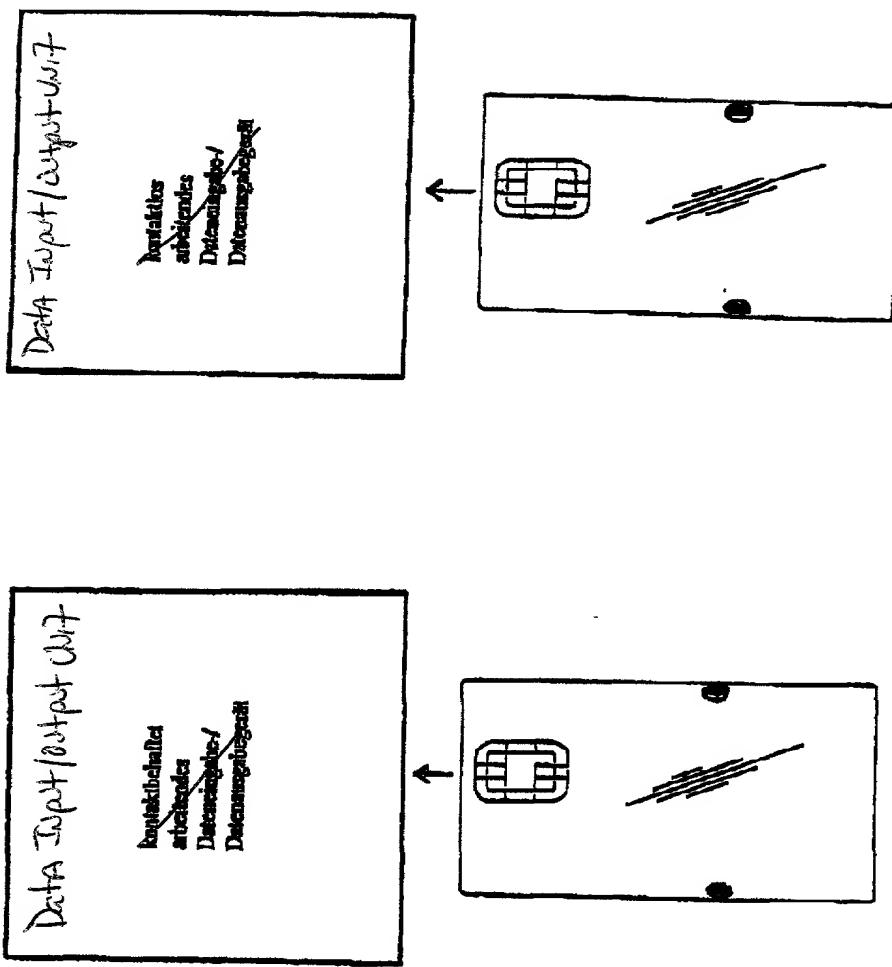


Fig. 2

09/601363

Fig. 38  
Fig. 34

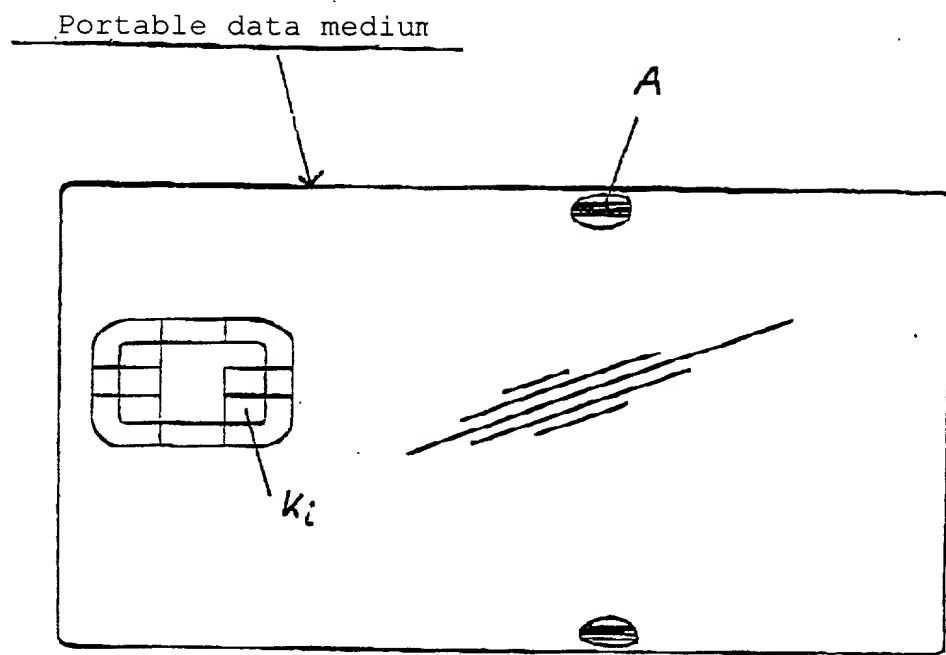


09/601363

WO 00/33247

PCT/DE99/03554

1 / 4



*Fig. 1*

09/601363

WO 00/33247

PCT/DE99/03554

2 / 4

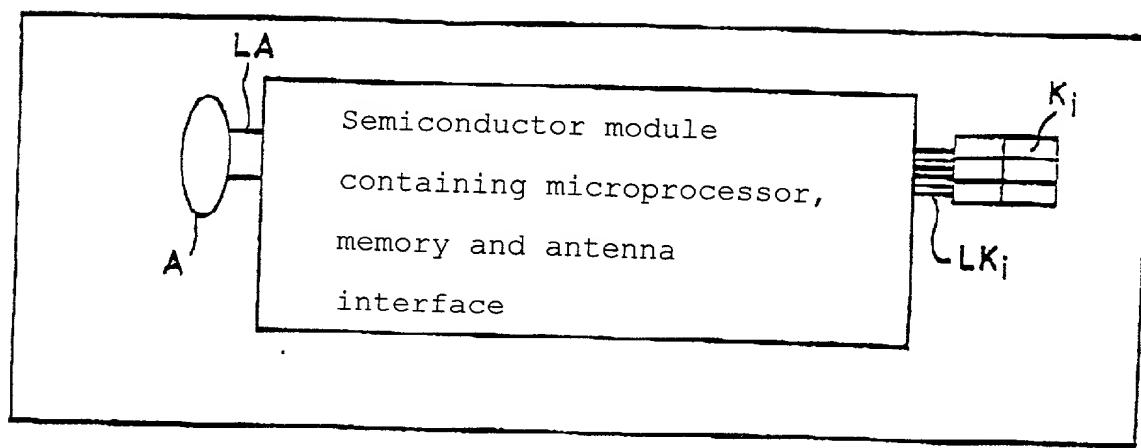


Fig. 2

Fig. 38

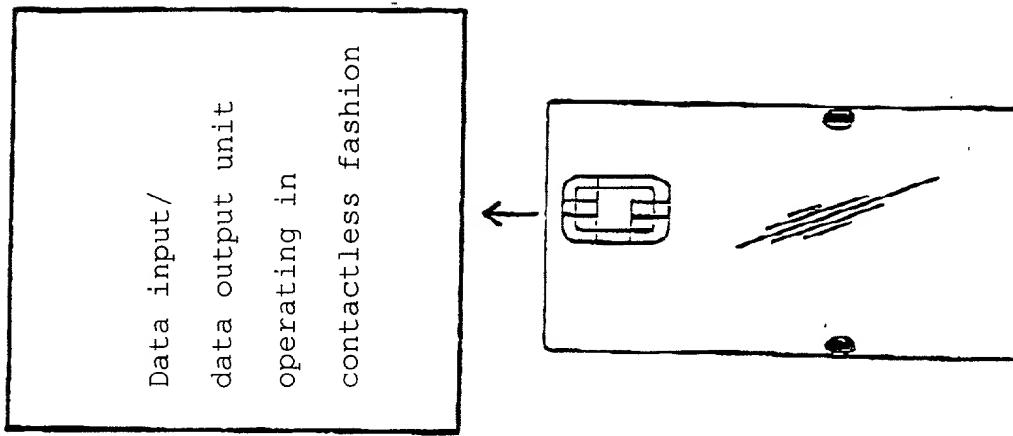
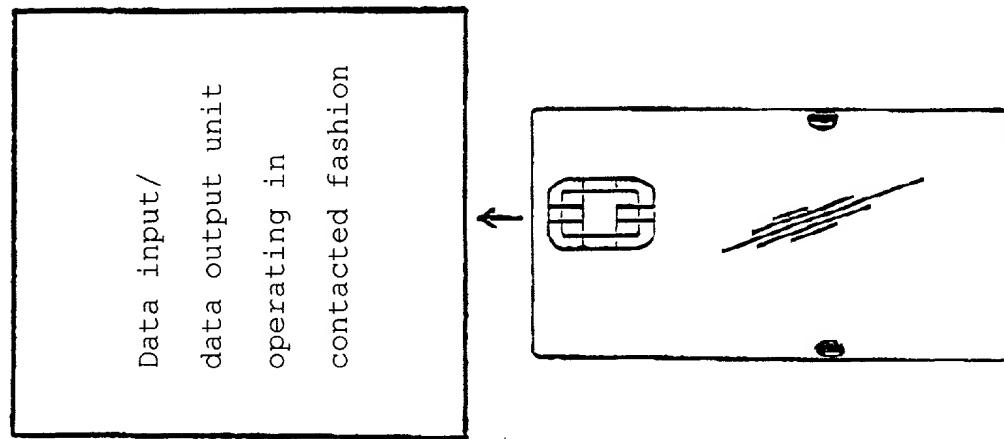


Fig. 3A



EEPROM	
Access conditions	1st memory area
Access conditions	2nd memory area
Access conditions	
Access conditions	<u>i-th memory area</u>
AC1: Read command permitted in contacted mode	Cash fund
AC2: Update command permitted in contacted mode	
AC3: Read command prohibited in contactless mode	
AC4: Update command prohibited in contactless mode	
Access conditions	<u>j-th memory area</u>
AC1: Read command permitted in contacted mode	Fund for local public transport
AC2: Update command permitted in contacted mode	
AC3: Read command permitted in contactless mode	
AC4: Update command permitted in contactless mode	
Access conditions	

## Declaration and Power of Attorney for Patent Application

### Erklärung für Patentanmeldungen mit Vollmacht

#### German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

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\_\_\_\_\_  
\_\_\_\_\_

deren Beschreibung hier beigelegt ist, es sei denn (in diesem Falle Zutreffendes bitte ankreuzen), diese Erfindung

wurde angemeldet am \_\_\_\_\_  
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Internationalen Anmeldenummer im Rahmen des  
Vertrags über die Zusammenarbeit auf dem Gebiet  
des Patentwesens (PCT)  
\_\_\_\_\_ und am  
\_\_\_\_\_ abgeändert (falls  
zutreffend).

Ich bestätige hiermit, dass ich den Inhalt der oben angegebenen Patentanmeldung, einschließlich der Ansprüche, die eventuell durch einen oben erwähnten Zusatzantrag abgeändert wurde, durchgesehen und verstanden habe.

Ich erkenne meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Titel 37, Code of Federal Regulations, § 1.56 von Belang sind.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

#### PORTABLE MICROPROCESSOR-ASSISTED DATA CARRIER THAT CAN BE USED WITH OR WITHOUT CONTACTS

the specification of which is attached hereto unless the following box is checked:

was filed on 13 November 1999  
as United States Application Number or PCT  
International Application Number  
PCT/DE99/03534 and was amended on  
\_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

[Page 1 of 3]

**Burden Hour Statement:** This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner of Patents and Trademarks, Washington, DC 20231.

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## German Language Declaration

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäß Title 35, US-Codes, § 119 (a)-(d), bzw. § 365(b) aller unten aufgeführten Auslandanmeldungen für Patente oder Erfinderurkunden, oder § 365(a) aller PCT internationalen Anmeldungen, welche wenigstens ein Land außer den Vereinigten Staaten von Amerika benennen, und habe nachstehend durch ankreuzen sämtliche Ausland-Anmeldungen für Patente bzw. Erfinderurkunden oder PCT internationale Anmeldungen angegeben, deren Anmeldungsdatum der Anmeldung, für welche Priorität beansprucht wird, vorangestellt.

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## Prior foreign applications

## Priorität beansprucht

			Priority Claimed	
198 35 596.2	Germany	02 December 1998	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No Nein
(Number) (Nummer)	(Country) (Land)	(Day/Month/Year Filed) (Tag/Monat/Jahr eingesiecht)	<input type="checkbox"/> Yes	<input type="checkbox"/> No Nein
(Number) (Nummer)	(Country) (Land)	(Day/Month/Year Filed) (Tag/Monat/Jahr eingesiecht)	<input type="checkbox"/> Yes	<input type="checkbox"/> No Nein
(Number) (Nummer)	(Country) (Land)	(Day/Month/Year Filed) (Tag/Monat/Jahr eingesiecht)	<input type="checkbox"/> Yes	<input type="checkbox"/> No Nein

Ich beanspruche hiermit die unter Title 35, US-Codes, § 120 zustehenden Verteile aller unten aufgeführten US-Patentanmeldungen bzw. § 365(c) aller PCT internationalen Anmeldungen, welche die Vereinigten Staaten von Amerika benennen, und erkenne, insofern der Gegenstand eines jeden früheren Anspruchs dieser Patentanmeldung nicht in einer US-Patentanmeldung, bzw. PCT internationalen Anmeldung in einer gemäß dem ersten Absatz von Title 35, US-Codes, § 112 vorgegebene Art und Weise offenbart wurde, meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Title 37, Code of Federal Regulations, § 1.56 von Belang sind und die im Zeitraum zwischen dem Anmeldedatum der früheren Patentanmeldung und dem nationalen oder im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patents (PCT) gültigen internationalen Anmeldetagen bekannt geworden sind.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Application No.) (Aktenzeichen)	(Filing Date) (Anmeldedatum)
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(Status) (patented, pending, abandoned)  
(Status) (patentiert, schwebend, aufgegeben)

(Application No.) (Aktenzeichen)	(Filing Date) (Anmeldedatum)
-------------------------------------	---------------------------------

(Status) (patented, pending, abandoned)  
(Status) (patentiert, schwebend, aufgegeben)

Ich erkläre hiermit, daß alle in der vorliegenden Erklärung von mir gemachten Angaben nach bestem Wissen und Gewissen die Wahrheit entsprechen, und ferner daß ich diese eidesstattliche Erklärung in Kenntnis dessen ablege, daß wissentlich und vorsätzlich falsche Angaben oder dergleichen gemäß § 1001, Title 18 des US-Codes strafbar sind und mit Geldstrafe und/oder Gefängnis bestraft werden können und daß derartige wissentlich und vorsätzlich falsche Angaben die Rechtswirksamkeit der vorliegenden Patentanmeldung oder eines aufgrund deren erzielten Patentes gefährden können.

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# German Language Declaration

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Stephen A. Bent, Reg. No. 29,768; David A. Blumenthal, Reg. No. 26,237; William T. Ellis, Reg. No. 26,874; John J. Feldhaus, Reg. No. 28,822; Patricia D. Granados, Reg. No. 33,683; John P. Isaacson, Reg. No. 33,715; Donald D. Jeffery, Reg. No. 19,980; Eugene M. Lee, Reg. No. 32,039; Richard Linn, Reg. No. 23,144; Peter G. Mack, Reg. No. 26,001; Brian J. McNamara, Reg. No. 32,789; Sybil Meloy, Reg. No. 22,749; George E. Quillin, Reg. No. 32,792; Colin G. Sandecock, Reg. No. 31,298; Bernhard D. Saxe, Reg. No. 28,665; Charles F. Schill, Reg. No. 27,590; Richard L. Schwab, Reg. No. 25,479; Arthur Schwartz, Reg. No. 22,115; Harold C. Wegner, Reg. No. 25,258.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number)

Stephen A. Bent, Reg. No. 29,768; David A. Blumenthal, Reg. No. 26,237; William T. Ellis, Reg. No. 26,874; John J. Feldhaus, Reg. No. 28,822; Patricia D. Granados, Reg. No. 33,683; John P. Isaacson, Reg. No. 33,715; Donald D. Jeffery, Reg. No. 19,980; Eugene M. Lee, Reg. No. 32,039; Richard Linn, Reg. No. 23,144; Peter G. Mack, Reg. No. 26,001; Brian J. McNamara, Reg. No. 32,789; Sybil Meloy, Reg. No. 22,749; George E. Quillin, Reg. No. 32,792; Colin G. Sandecock, Reg. No. 31,298; Bernhard D. Saxe, Reg. No. 28,665; Charles F. Schill, Reg. No. 27,590; Richard L. Schwab, Reg. No. 25,479; Arthur Schwartz, Reg. No. 22,115; Harold C. Wegner, Reg. No. 25,258.

Telefongespräche bitte richten an:

William T. Ellis  
(202) 672-5300

Direct Telephone Calls to:

William T. Ellis  
(202) 672-5300

Postanschrift: FOLEY & LARDNER  
3000 K Street, N.W., Suite 500  
P.O. Box 25696  
Washington, D.C. 20007-8696

Send Correspondence to: **FOLEY & LARDNER**  
**3000 K Street, N.W., Suite 500**  
**P.O. Box 25696**  
**Washington, D.C. 20007-8696**

Voller Name des einigen oder ursprünglichen Erfinders:		Full name of sole or first inventor:	
<u>Achim Piatig</u>			
Unterschrift des Erfinders	Datum	Signature	Date
<u>Achim Piatig</u>	<u>24.09.00</u>		
Wohnsitz	Residence		
	<u>Detmold, Germany</u> <u>DE</u>		
Staatsangehörigkeit	Citizenship		
	<u>Germany</u>		
Postanschrift	Post Office Address		
	<u>Geierweg 1F, D-32760 Detmold, Germany</u>		
Voller Name des zweiten Miterfinders (falls zutreffend)		Full name of second joint inventor, if any	
Unterschrift des Erfinders	Datum	Second Inventor's signature	Date
Wohnsitz	Residence		
Staatsangehörigkeit	Citizenship		
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(Bitte entsprechende Informationen und Unterschriften im Falle von dritter und weiteren Miterfindern angeben.)

(Supply similar information and signature for third and subsequent joint inventors.)